CURRICULUM VITAE
Pingwen Zhang

Department of Scientific& Engineering Computing
School of Mathematical Sciences, Peking University, Beijing 100871, China
Phone: 86-10-6275-9851, Fax: 86-10-6275-1801, E-mail: pzhang@pku.edu.cn

Education:

1989-1992:	Ph.D. in mathematics, supervised by Prof. Longan Ying, Department of Mathematics, Peking University, Beijing, China.
1988-1989:	Master candidate, Department of Mathematics, Peking University, Beijing, China.
1984-1988:	Bachelor of Science, Department of Mathematics, Peking University, Beijing, China.

Working Experience:

2019-present:	Vice President, Peking University
2018-present:	Director of National Engineering Laboratory for Big Data Analysis and Application Technology, Peking University.
2018-2019:	Director of Center for Computational Science and Engineering.
2018-2019:	Director of Office of Academic Development, Peking University.
2015-2018:	Vice Provost, Director of Office of Academic Development, Peking University.
2001-2018:	Executive Deputy Director for Center for Computational Science and Engineering, Peking University.
2013-2015:	Executive Vice Dean of School of Mathematical Sciences, Peking University.
2010-2017:	Director of Laboratory of Mathematics and Applications, Peking University.
2008-2012:	Vice Dean of School of Mathematical Sciences, Peking University.
2008-2012:	Deputy Director of Institute of Mathematics, Peking University.
2008-2010:	Deputy Director of Laboratory of Mathematics and Applications, Peking University.
1999-2008:	Director for Department of Scientific& Engineering Computing, School of Mathematical Sciences, Peking University.
1996-present:	Professor in School of Mathematical Sciences, Peking University, China.
1994-1996:	Associate Professor in School of Mathematical Sciences, Peking University, China.
1992-1994:	Lecturer in Department of Mathematics, Peking University, China.

Research Fields:

Modeling and Simulation of Soft Matter (Complex Fluids);
Applied Analysis and Numerical Analysis;
Moving mesh methods and applications.

Honors and Awards:

2020:	Fellow of Society for Industrial and Applied Mathematics
2016:	Fellow of The World Academy of Sciences for the advancement of science in developing countries
2015:	Member of The Chinese Academy of Sciences
2014:	National Prize of Natural Sciences (Second-Class)
2014:	Leading Scientist, Innovative Group of NSFC
2007:	The First-Class Prize of Natural Sciences, Higher Education Institutions of MOE
2002:	Changjiang Professor
2002:	National Science Fund for Distinguished Young Scholars
1999:	Feng Kang Prize of Scientific Computing

Professional Activities:

2016-present:	President of China Society for Industry and Applied Mathematics (CSIAM)
2004-2016:	Vice President of China Society for Industry and Applied Mathematics (CSIAM) Chair of Scientific Committee of CSIAM
2015-present:	Associate Director for Scientific Committee of National Lab in Large Scale Scientific Computing
2006-present:	Associate Director for Scientific Committee of Computational Physics Lab, Institute of Applied Physics and Computational Mathematics

Editorial Board:

Publications (Journal Papers)

1. Pingwen Zhang, Viscous splitting for the exterior problem of Navier-Stokes equations, Acta Scientiarum Naturalium Universitatis Pekinensis, Vol 27, No. 3, (1991).

2. Pingwen Zhang, Viscosity splitting with nonzero tangent boundary value, Numerical Mathematics, Journal of Chinese Universities, Vol 14, No. 2, (1992).

3. Pingwen Zhang, Exterior problem for the three-Dimensional Euler equation, Journal of Partial Di erential Equations, Vol 5, No. 3, (1992).

4. Pingwen Zhang, A sharp estimate of simplified viscosity splitting scheme, Journal of Computational Mathematics, Vol 11, No. 3, 295-210, (1993).

5. Pingwen Zhang, A family of viscous splitting schemes for Navier-Stokes equations, Journal of Computational Mathematics, Vol. 11, No. 1, 20-36, (1993).

6. Pingwen Zhang, A symmetrical viscous splitting schemes for Navier-Stokes equations, Numerical Mathematics, A Journal of Chinese Universities, Vol 1, No. 1, (1993).

7. Long-an Ying and Pingwen Zhang, Fully discrete convergence estimates for vortex methods in bounded domains, SIAM Journal on Numerical Analysis, Vol 31, No. 2, 344-361, (1994).

8. Pingwen Zhang, Convergence of vortex methods for Exterior problems, Chinese Annal of Mathematics, 15A (3) 287-296, (1994) (in Chinese).

9. Pingwen Zhang, On vortex methods for initial boundary problems, Northeast Mathematical Journal, Vol. 10, No. 2, 256-266, (1994).

10. Zhenhuan Teng, Long-an Ying and Pingwen Zhang, Convergence of variable-elliptic-vortex method for Euler equations, SIAM Journal on Numerical Analysis, Vol 32 No. 3, 754-774, (1995).

11. Pingwen Zhang, Huaqi Liu and Yu Zhang, Computation of wavelet function, Mathematica Numerica Sinica (Chinese) , Vol 2, 173-185, (1995)

12. Pingwen Zhang, Convergence of the point vortex methods for Euler equation on half plane, Journal of Computational Mathematics, Vol. 14, No. 3, 213-222, (1996).

13. Thomas Y. Hou, Zhenhuan Teng and Pingwen Zhang, Well-posedness for linearizied motion of 3-D water waves far from equilibrium, Communications in Partial Differential Equations, 21 (9&10), 1551-1585, (1996).

14. Pingwen Zhang, Convergence of vortex Methods in a bounded domain Using linear finite elements, IMA Journal of Numerical Analysis, 16, 539-548, (1996).

15. Pingwen Zhang, Convergence of vortex with boundary element methods, Journal of Computational Mathematics 15:(2) 127-137 (1997).

16. Zhenhuan Teng and Pingwen Zhang, Optimal L^1 Rate of Convergence for Viscosity Method and Monotone Scheme to Piecewise Constant Solution with Shocks, SIAM Journal on Numerical Analysis, Vol. 34, 3, (1997).

17. Thomas Y. Hou and Pingwen Zhang, Growth Rates for the Linearized Motion of 3-D Fluid Interfaces with Surface Tension Far from Equilibrium, The Asian Journal of Mathematics, Vol. 2, 2, (1998).

18. Long-an Ying and Pingwen Zhang, Vanishing Curvature Viscosity for Front propagation, Journal of Di . Eqs. 161, 289-306 (2000).

19. Pingwen Zhang and Yu Zhang, Wavelet Boundary Element Methods, J. Comput. Math. Vol.18, No.1 25-42 (2000).

20. Tao Tang, Weimin Xue and Pingwen Zhang, Analysis of Moving Mesh Methods Based on Geometrical Variables, J. Comp. Math. Vol. 19, No.1, 41-54 (2001).

21. Thomas Y. Hou and Pingwen Zhang, A New Stability Technique for Boundary Integral Methods of Water Waves, Math. Comp. Vol. 70 No. 235, 951-976 (2001).

22. B. Fu, Z. Yang, Y. Wang and P. Zhang, A Mathematical Model of Soil Moisture Spatial Distribution on the Hill Slopes of the Loess Plateau, Science in China (series D) Vol. 44 No. 5 395-402 (2001).

23. Rou Li, Tao Tang and Pingwen Zhang, Moving Mesh Methods in Multiple Dimensions Based on Harmonic Maps, Journal of Computational Physics 170, 562-588 (2001).

24. Tiejun Li and Pingwen Zhang, Numerical Studies of Shallow Water Waves on Slopping Beach with Arti cial Boundary, Mathematica Numerica Sinica (Chinese) Vol.23, No.4, 503-512 (2001).

25. Qiang Du, Dianzhong Li, Yiyi Li, Rou Li and Pingwen Zhang, Simulating A Double Casting Technique Using Level Set Method, Computational Materials Science 22 200-212 (2001).

26. Pingwen Zhang and Xiaoming Zheng, Numerical Studies of 2D Free Surface Waves with Fixed Bottom, Journal of Computational Mathematics Vol.20, No.4, 391-412 (2002).

27. Thomas Y. Hou and Pingwen Zhang, Convergence of a Boundary Integral Method for 3-D Water Waves, Discrete and Continuous Dynamical Systems Series B Vol. 2, Number 1, 1-34 (2002).

28. Rou Li, Tao Tang and Pingwen Zhang, A Moving Mesh Finite Element Algorithm for Sin-gular Problems for Two and Three Space Dimensions, Journal Computational Physics 177, 365-393 (2002).

29. Zhenfu Xu and Pingwen Zhang, Stability of Boundary Integral Method for Water Wave, Mathematica Numerica Sinica (Chinese) Vol.24, No.3, 311-318 (2002).

30. Q. Wang, W. E, C. Liu and P. Zhang, Kinetic Theories for Flows of Nonhomogeneous Rodlike Liquid Crystalline Polymers with a Nonlocal Intermolecular Potential, Physical Review E Vol. 65, 051504 (2002).

31. Weinan E, Tiejun Li and Pingwen Zhang, Convergence of a stochastic method for the modeling of polymeric uids, Acta Mathematicae Applicatae Sinica, English Series, Vol. 18 529-536 (2002).

32. Thomas Y. Hou, Gang Hu and Pingwen Zhang, Singularity Formulation of 3D Vortex Sheets, Physics of Fluids Vol. 15, No. 1, 147-172 (2003).

33. Pingwen Zhang, Yi Sun, Haiyan Jiang and Wei Yao, Multi-scale Methods for Inverse Modeling in 1-D Mos Capacitor, Journal of Computational Mathematics, Vol. 21, No. 1, 85-100, (2003).

34. Huazhong Tang, Tao Tang and Pingwen Zhang, An adaptive mesh redistribution method for nonlinear hamiltonian-jacobi equations in two- and three dimensions, Journal of Computational Physics, Vol 188/2 543 - 572, (2003)

35. Yingxion Xiao, Shi Shu, Pingwen Zhang, Zeyao Mo and Jinchao Xu, A kind of semi-roarsing AMG method for two dimensional energy equations with three temperatures, Numerical Computation and Application of Computer, Vol. 4, 293-303, (2003)

36. Hui Zhang and Pingwen Zhang, A theoretical and numerical study for the rod-like model of a polymeric uid, Journal of Computational Mathematics, Vol. 22 No. 2, 319-330, (2004)

37. Daming Li, Ruo Li and Pingwen Zhang, A new coupled model for alloy solidi cation Science in China series A-Mathematics, 47: 41-52 Suppl. S APR, (2004)

38. Wienan E, Tiejun Li and Pingwen Zhang, Well-posedness for the dumbbell model of polymeric uids, Communications in mathematical physics 248 (2): 409-427, (2004)

39. Tiejun Li, Hui Zhang and Pingwen Zhang, Local existence for the dumbbell model of polymeric uids, Communications in Partial Di erential Equations 29 (5-6): 903-923, (2004)

40. Tiejun Li, Eric Vanden-Eijnden, Pingwen Zhang and Weinan E, Stochastic models of polymeric liquids at small Deborah number, Journal of Non-Newtonian Fluid Mechanics 121, 117-125, (2004)

41. Tiejun Li, Pingwen Zhang and Xiang Zhou, Analysis of 1+1 dimensional stochastic models of liquid crystal polymer flows, Communications in Mathematical Sciences 2295-316, (2004)

42. Tiao Lu, Pingwen Zhang and Wei Cai, Discontinuous Galerkin methods for dispersive and lossy Maxwell's equations and PML boundary conditions, Journal of Computational Physics 200 (2): 549-580, (2004)

43. Chong Luo, Hui Zhang and Pingwen Zhang, The structure of equilibrium solutions of one-dimensional Doi equation, Nonlinearity, 18, 379-389, (2005)

44. Tiao Lu, Wei Cai and Pingwen Zhang, Conservative local discontinuous Galerkin methods for time dependent Schrodinger equation, International Journal of Numerical Analysis & Modeling Vol. 2(1)75-84 (2005)

45. Weinan E Pingbing Ming and Pingwen Zhang, Analysis of the heterogeneous multiscale method for elliptic homogenization problems, Journal of the American Mathematical Society 18 (1): 121-156, (2005)

46. Tiao Lu, Wei Cai and Pingwen Zhang, Discontinuous Galerkin time-domain method for GPR simulation in dispersive media, IEEE Transactions on Geoscience and Remote Sensing 43 (1): 72-80, (2005)

47. Yana Di, Ruo Li, Tao Tang and Pingwen Zhang, Moving mesh nite element methods for the incompressible Navier-Stokes equations, SIAM Journal on ScientificComputing 26 (3): 1036-1056, (2005)

48. Hailiang Liu, Hui Zhang and Pingwen Zhang, Axial symmetry and classi cation of stationary solutions of Doi-Onsager equation on the sphere with Maier-Saupe potential, Communications in Mathematical Sciences,3 201-218, (2005)

49. Xia Ji, Tiao Lu T, Wei Cai and PingwenZhang, Discontinuous Galerkin time domain (DGTD) methods for the study of 2-D waveguide-coupled microring resonators, Journal of Lightwave Technology 23 (11): 3864-3874 (2005)

50. Haiyang Jiang and Pingwen Zhang, Model analysis and parameter extraction for MOS capacitor including quantum mechanical effects, Journal of Computational Mathematics 24 (3): 401-411 MAY (2006)

51. Tiejun Lin and Pingwen Zhang, Convergence analysis of BCF method for Hookean dumb-bell model with finite difference scheme, Multiscale Modeling & Simulation 5 (1): 205-234 (2006)

52. Hui Zhang and Pingwen Zhang, Local existence for the FENE-dumbbell model of polymeric fluids Archive for Rational Mechanics and Analysis 181 (2): 373-400 JUL (2006)

53. Dongzhuo Zhou, Pingwen Zhang and Weinan E, Modi ed models of polymer phase separation Physical Review E 73 (6): Art. No. 061801 Part 1 JUN (2006)

54. Yana Di and Pingwen Zhang, Moving mesh kinetic simulation for sheared rodlike polymers with high potential intensities. Communications in Computational Physics, 1 859-873. (2006)

55. Yana Di, Ruo Li, Tao Tang, and Pingwen Zhang, Moving mesh methods for singular problems on a sphere using perturbed harmonic mappings, SIAM Journal on Scientific Computing, 28, 1490-1508. (2006)

56. Guanghua Ji, Qi Wang, Pingwen Zhang and Hong Zhou, Study of phase transition in homogeneous, rigid extended nematics and magnetic suspensions using an order-reduction method, Physics of Fluids, 18, 123103 (2006)

57. Weinan E and Pingwen Zhang, A Molecular Kinetic Theory of Inhomogeneous Liquid Crystal Flow and the Small Deborah Number Limit, Methods and Applications of Analysis Vol. 13, No. 2, 181-198, JUN (2006)

58. Pingbing Ming and Pingwen Zhang, Analysis of the heterogeneous multiscale method for parabolic homogenization problems, Mathematics of Computation 76 (257): 153-177 (2007)

59. Xia Ji, Wei Cai and Pingwen Zhang, High order DGTD methods for dispersive Maxwell's equations and modeling of silver nanowire Coupling, International Journal for Numerical Methods in Engineering 69, 308-325 (2007)

60. Haijun Yu and Pingwen Zhang, A kinetic-hydrodynamic simulation of microstructure of liquid crystal polymers in plane shear ow, Journal of Non-Newtonian Fluid Mechanics 141 (2-3): 116-127 FEB 15 (2007)

61. Daming Li, Ruo Li and Pingwen Zhang, A cellular automaton technique for modelling of a binary dendritic growth with convection, Applied Mathematical Modelling 31 (6): 971-982 JUN (2007)

62. Tiejun Li and Pingwen Zhang, Mathematical analysis of multi-scale models of complex fluids, Communications in Mathematical Sciences 5 (1): 1-51 MAR (2007)

63. Yana Di, Ruo Li, Tao Tang and Pingwen Zhang, Level set calculations for incompressible two-phase flows on a dynamically adaptive grid, Journal of Scientific Computing 31 (1-2): 75-98 MAY (2007)

64. Dan Hu, Pingwen Zhang and Weinan E, Continuum theory of a moving membrane, Phys-ical Review E 75 (4): Art. No. 041605 Part 1 APR (2007)

65. Hui Zhang and Pingwen Zhang, Stable dynamic states at the nematic liquid crystals in weak shear ow, Physica D-Nonlinear Phenoma 232 (2): 156-165 (2007)

66. Congmin Wu, Tiezhen Qian and Pingwen Zhang, Non-equilibrium molecular-dynamics measurement of the Leslie coefficients of a Gay-Berne nematic liquid crystal, Liquid Crystals 34 (10): 1175-1184 (2007)

67. Guanghua Ji, Qi Wang, Pingwen Zhang, Hongyun Wang and Hong Zhou, Steady states and their stability of homogeneous, rigid, extended nematic polymers under imposed magnetic fields, Communications in Mathematical Sciences 5 (4): 917-950 DEC (2007)

68. Guoxian Chen, Huazhong Tang and Pingwen Zhang, Second-order accurate Godunov scheme for multicomponent ows on moving triangular meshes, Journal of Scientific Computing Volume: 34 64-86 (2008)

69. Lingyun Zhang, Hui Zhang and Pingwen Zhang, Global existence of weak solutions to the regularized Hookean dumbbell model, Communications in Mathematical Sciences 6 (1): 85-124 (2008)

70. Han Wang, Kun Li and Pingwen Zhang, Crucial properties of the moment closure model FENE-QE, Journal of Non-Newtonian Fluid Mechanics, 150(2-3), 80-92 (2008)

71. Pingwen Zhang and Xinwei Zhang, An efficient numerical method of Landau-Brazovskii model, Journal of Computational Physics, 227 (11) 5859-5870 (2008)

72. Peng Song and Pingwen Zhang, Numerical simulation of uid membranes in two-dimensional space, Communications in Computational Physics, 3(4) 794-821 (2008)

73. Xia Ji, Wei Cai and Pingwen Zhang, Reflection/transmission characteristics of a dis-continuous Galerkin method for Maxwell's equations in dispersive inhomogeneous media, Journal of Computational Mathematics, 26 (3): 347-364 MAY (2008)

74. Haiyan Jiang, Sihong Shou, Wei Cai and Pingwen Zhang, Boundary treatments in non-equilibrium Green's function (NEGF) methods for quantum transport in nano-MOSFETs, Journal of Computational Physics, 227 (13) 6553-6573 (2008)

75. Yan Ding, Tiehjun Li, Dongxiao Zhang and Pingwen Zhang, Adaptive Stroud stochastic collocation method for ow in random porous media via Karhunen-Loeve expansion, Communications in Computational Physics, 4(1) 102-123 (2008)

76. Dongzhuo Zhou, An-Chang Shi and Pingwen Zhang, Numerical simulation of phase separation coupled with crystallization, Journal of Chemical Physics, 129, 154901, (2008)

77. Hui Zhang and Pingwen Zhang, On the New Multiscale Rodlike Model of Polymeric Fluids, SIAM Journal on Mathematical Analysis, 40(3) 1246-1271 (2008)

78. Guanghua Ji, Haijun Yu and Pingwen Zhang, A Kinetic-Hydrodynamic Simulation of Liquid Crystalline Polymers Under Plane Shear Flow: 1+2 Dimensional Case, Communications in Computational Physics, 4(5) 1194-1215 (2008).

79. Haijun Yu, Guanghua Ji and Pingwen Zhang, A Nonhomogeneous Kinetic Model of Liquid Crystal Polymers and Its Thermodynamic Closure Approximation, Communications in Computational Physics, 7(2) Sp. Iss. SI 383-402 (2010).

80. Ling Lin, Xiuyuan Cheng, Weinan E, An-Chang Shi and Pingwen Zhang, A numerical method for the study of nucleation of ordered phases, Journal of Computational Physics, 229(5) 1797-1809 (2010).

81. Xiuyuan Cheng, Ling Lin, Weinan E, Pingwen Zhang and An-Chang Shi, Nucleation of Ordered Phases in Block Copolymers, Physical Review Letters 104(14) 148301 (2010).

82. Dan Hu, Peng Song and Pingwen Zhang, Local Existence and Uniqueness of the Dynamical Equations of an Incompressible Membrane in Two-Dimensional Space, Communications in Mathematical Sciences 8(3) Sp. Iss. SI 783-796 (2010).

83. Kai Jiang, Yunqing Huang and Pingwen Zhang, Spectral method for exploring patterns of diblock copolymers, Journal of Computational Physics, 229(20) 7796-7805 (2010).

84. Jing Huang, Jilei Wu, Tiejun Li, Xinming Song, Bingzi Zhang, Pingwen Zhang, Xiaoying Zheng, Effect of exposure to trace elements in the soil on the prevalence of neural tube defects in a high-risk area of China, Biomedical and Environmental Sciences, 24 94{101, (2011).

85. Chu Wang, Kai Jiang, Pingwen Zhang and An-Chang Shi, Origin of epitaxies between ordered phases of block copolymers, Soft Matter 7, 10552-10555, (2011).

86. Tiao Lu, Gang Du, Xiaoyan Liu, Pingwen Zhang, A Finite Volume Method for the Multi Sub band Boltzmann Equation with Realistic 2D Scattering in Double Gate MOSFETs, Communications in Computational Physics, 10, 305-338, (2011).

87. Han Wang, Site Luigi Delle, Pingwen Zhang, On the existence of a third-order phase transition beyond the Andrews critical point: A molecular dynamics study, Journal of Chemical Physics, 135, 224506, (2011)

88. Han Wang, Pingwen Zhang, Christof Schuette, On the Numerical Accuracy of Ewald, Smooth Particle Mesh Ewald, and Staggered Mesh Ewald Methods for Correlated Molecular Systems, Journal of Chemical Theory and Computation, 8(9), 3243-3256, (2012).

89. Han Wang, Christof Schuette, Pingwen Zhang, Error estimate of short-range force calculation in inhomogeneous molecular systems, Physical Review E, 86(2), 026704, (2012).

90. Wei Wang, Pingwen Zhang, Zhifei Zhang, Well-Posedness of Hydrodynamics on the Moving Elastic Surface, Archive for Rational Mechanics and Analysis, 206(3), 953-995, (2012).

91. Wei Zhang, Tiejun Li, Pingwen Zhang, Numerical Study for the Nucleation of One-Dimensional Stochastic Cahn-Hilliard Dynamics, Communications in Mathematical Sciences, 10(4), 1105-1132, (2012).

92. Peiwen Ji, Song Jiang and Pingwen Zhang, Computable Modeling (Chinese), SCIENCE CHINA Mathematics, 42(6), 1-18, (2012).

93. Tiejun Li, Pingwen Zhang and Wei Zhang, Nucleation Rate Calculation for the Phase Transition of Diblock Copolymers under Stochastic Cahn-Hilliard Dynamics, Multiscale Modeling & Simulation, 11 (1), 385-409 (2013).

94. Gai Liu, Gang Du, Tiao Lu, Xiaoyan Liu, Pingwen Zhang, Xing Zhang, Simulation Study of Quasi-Ballistic Transport in Asymmetric DG-MOSFET by Directly Solving Boltzmann Transport Equation, IEEE Transactions on Nanotechnology, 12 (2), 168-173 (2013).

95. Han Wang Dan Hu and Pingwen Zhang, Measuring the Spontaneous Curvature of Bilayer Membranes by Molecular Dynamics Simulations, Communications in Computational Physics, 13 (4), 1093-1106, (2013).

96. Weiquan Xu, Kai Jiang, Pingwen Zhang and An-Chang Shi, A Strategy to Explore Stable and Metastable Ordered Phases of Block Copolymers, Journal of Physical Chemistry B, 117 (17), 5296-5405, (2013).

97. Qin Liang, Jianfeng Li, Pingwen Zhang and Je Z.Y. Chen, Modi ed Di usion Equation for the Wormlike-chain Statistics in Curvilinear Coordinates, Journal of Chemical Physics, 138 (24), 244910, (2013).

98. Kai Jiang, Chu Wang, Yunqing Huang and Pingwen Zhang, Discovery of New Metastable Patterns in Diblock Copolymers, Communications in Computational Physics, 14 (2), 443-460, (2013).

99. Wei Wang, Pingwen Zhang and Zhifei Zhang, Well-Posedness of the Ericksen-Leslie System, Archive for Rational Mechanics and Analysis, 210 (3), 837-855, (2013).

100. Hong Cheng and Pingwen Zhang, A Tensor Model for Liquid Crystals on a Spherical Surface, SCIENCE CHINA Mathematics, 56 (12), 2549-2559, (2013).

101. Kai Jiang and Pingwen Zhang, Numerical Methods for Quasicrystals, Journal of Computational Physics, 256, 428-440, (2014).

102. Jinglong Zhu, Pingwen Zhang, Han Wang and Luigi Delle Site, Is There a Third Order Phase Transition for Supercritical Fluids? Journal of Chemical Physics, 140 (1), 014502, (2014).

103. Jie Xu and Pingwen Zhang, From Microscopic Theory to Macroscopic Theory - Symmetries and Order Parameters of Rigid Molecules , Science China: Mathematics, 57(3), 443-468, (2014).

104. Hao Zhang, Kai Jiang and Pingwen Zhang, Dynamic Transition for Landau-Brazovskii Model, Discrete and Continuous Dynamical Systems - Series B, 19(2), 607-627, (2014).

105. Haoze Tan, Qi Liao and Pingwen Zhang, Conformation of Polyelectrolytes in Poor Sol-vents: Variational Approach and Quantitative Comparison with Scaling Predictions, Journal of Chemical Physics, 140 (19), 194905, (2014).

106. Weiquan Xu and Pingwen Zhang, Boundary Effects in Confined Copolymer System and Compressible SCFT Model, Journal of Computational and Applied Mathematics, 265, 290-300, (2014).

107. Qin Liang, Shiwei Ye, Pingwen Zhang and Je Z.Y. Chen, Rigid Linear Particles Con ned on a Spherical Surface: Phase Diagram of Nematic Defect States, Journal of Chemical Physics, 141 (24), 244901, (2014).

108. Jiequn Han, Yi Luo, Wei Wang, Pingwen Zhang and Zhifei Zhang, From Microscopic Theory to Macroscopic Theory: a Systematic Study on Modeling for Liquid Crystals, Archive for Rational Mechanics and Analysis, 215 (3), 741-809, (2015).

109. Wei Wang, Pingwen Zhang and Zhifei Zhang, Rigorous Derivation from Landau-De Gennes Theory to Ericksen-Leslie Theory , SIAM Journal on Mathematical Analysis, 47 (1), 127-158, (2015).

110. Honghu Liu, Taylan Sengul, Shouhong Wang and Pingwen Zhang, Dynamic Transitions and Pattern Formations for a Cahn-Hilliard Model with Long-Range Repulsive Interac-tions, Communications in Mathematical Sciences, 13 (5), 1289-1315, (2015).

111. Kai Jiang, Weiquan Xu and Pingwen Zhang, Analytic Structure of the SCFT Energy Functional of Multicomponent Block Copolymers, Communications in Computational Physics, 17 (5), 1360-1387, (2015).

112. Wei Wang, Pingwen Zhang and Zhifei Zhang, The Small Deborah Number Limit of the Doi-Onsager Equation to the Ericksen-Leslie Equation , Communications on Pure and Applied Mathematics, 68 (8), 1326-1398, (2015).

113. Sirui Li, Wei Wang and Pingwen Zhang, Local Well-posedness and Small Deborah Limit of A Molecular-Based Q-Tensor System, Discrete and Continuous Dynamical Systems - Series B, 20(8), 2611-2655, (2015).

114. Kai Jiang, Jiajun Tong, Pingwen Zhang and An-Chang Shi, Stability of Two-Dimensional Soft Quasicrystals in Systems with Two Length Scales, Physical Review E, 92 (4), 042159, (2015).

115. Pingwen Zhang and An-Chang Shi, Application of Self-consistent Field Theory to Self-Assembled Bilayer Membrane, Chinese Physics B, 24 (12), 128707, (2015).

116. Qin Liang, Kai Jiang and Pingwen Zhang, E cient Numerical Schemes for Solving the Self-Consistent Field Equations of Flexible-Semi flexible Diblock Copolymers, Mathematical Methods in Applied Sciences, 38 (18), 4553-4563, (2015).

117. Shiwei Ye, Pingwen Zhang and Je Z.Y. Chen, Surface-induced phase transitions of worm-like chains in slit con nement, Soft Matter, 12 (11), 2948-2959, (2016).

118. Shiwei Ye, Pingwen Zhang and Je Z.Y. Chen, Nematic ordering of semi flexible polymers confined on a toroidal surface, Soft Matter, 12 (24), 5438-5449, (2016).

119. Yucheng Hu, Yang Qu and Pingwen Zhang, On the Disclination Lines of Nematic Liquid Crystals, Communications in Computational Physics, 19 (2), 354-379, (2016).

120. Kai Jiang, Jiajun Tong and Pingwen Zhang, Stability of Soft Quasicrystals in a Coupled-Mode Swift-Hohenberg Model for Three-Component Systems, Communications in Computational Physics, 19 (3), 559-581, (2016).

121. Jie Xu, Chu Wang, An-Chang Shi and Pingwen Zhang, Computing Optimal Interfacial Structure of Modulated Phases, Communications in Computational Physics, 21 (1), 1-15, (2017).

122. Jie Xu and Pingwen Zhang, The Transmission of Symmetry of Liquid Crystals, Communications in Mathematical Sciences, 15 (1), 185-195, (2017).

123. Yang Qu, Ying Wei, and Pingwen Zhang, Transition of Defect Patterns from 2D to 3D in Liquid Crystals, Communications in Computational Physics, 21 (3), 890-904, (2017).

124. Kai Jiang, Pingwen Zhang and An-Chang Shi, Stability of Icosahedral Quasicrystals in a Simple Model with Two-Length Scales, Journal of Physics-Condensed Matter, 29 (12), 124003, (2017).

125. Jinhae Park, Wei Wang, Pingwen Zhang and Zhifei Zhang, On Minimizers for the Isotropic-Nematic Interface Problem, Calculus of Variations and Partial Differential Equations, 56 (2), 41, (2017).

126. Yu Tong, Yiwei Wang and Pingwen Zhang, Defects Around a Spherical Particle in Cholesteric Liquid Crystals, Numerical Mathematics-Theory Methods and Applications, 10 (2), 205-221, (2017).

127. Yongqiang Cai, Pingwen Zhang and An-Chang Shi, Liquid Crystalline Bilayers Self-Assembled from Rod-Coil Diblock Copolymers, Soft Matters, 13 (26), 4607-4615, (2017).

128. Zhiyuan Geng, Wei Wang, Pingwen Zhang and Zhifei Zhang, Stability of Half-Degree Point Defect Pro les for 2D Nematic Liquid-Crystals, Discrete and Continuous Dynamical Systems, 37 (12), 6227-6242, (2017).

129. Yiwei Wang, Pingwen Zhang and Je Z. Y. Chen, Topological Defects in an Unconfined Nematic Fluid Induced by Single and Double Spherical Colloidal Particles, Physical Re-view E, 96 (4), 042702, (2017).

130. Weihua Deng, Buyang Li, Wenyi Tian and Pingwen Zhang, Boundary Problems for the Fractional and Tempered Fractional Operators, Multiscale Modeling & Simulation, 16 (1), 125-149, (2018).

131. Jie Xu and Pingwen Zhang, Calculating Elastic Constants of Bent-Core Molecules from Onsager-Theory-Based Tensor Model, LIQUID CRYSTALS, 45 (1), 22-31, (2018).

132. Xu, Jie; Zhang, Pingwen ; Onsager-theory-based dynamic model for nematic phases of bent-core molecules and star molecules, JOURNAL OF NON-NEWTONIAN FLUID MECHANICS, 2018, 251: 43-55.

133. Xu, Jie; Ye, Fangfu; Zhang, Pingwen ; A TENSOR MODEL FOR NEMATIC PHASES OF BENT-CORE MOLECULES BASED ON MOLECULAR THEORY, MULTISCALE MODELING &SIMULATION, 2018, 16(4): 1581-1602.

134. Luo, Yixiang; Xu, Jie; Zhang, Pingwen; A Fast Algorithm for the Moments of Bingham Distribution, JOURNAL OF SCIENTIFIC COMPUTING, 2018, 75(3): 1337-1350.

135. Shen, Jie; Xu, Jie ; Zhang, Pingwen; Approximations on SO(3) by Wigner D-matrix and Applications, JOURNAL OF SCIENTIFIC COMPUTING, 2018, 74(3):1706-1724.

136. Wang, Yiwei; Zhang, Pingwen ; Chen, Jeff Z. Y. ; Formation of three-dimensional colloidal crystals in a nematic liquid crystal, SOFT MATTER, 2018, 14(32): 6756-6766.

137. Cai, Yongqiang; Zhang, Pingwen ; Shi, An-Chang ; Elastic properties of liquid-crystalline bilayers self-assembled from semiflexible-flexible deblock copolymers, SOFT MATTER, 2019, 15(45): 9215-9223.

138. Jianyuan Yin; Lei Zhang; Pingwen Zhang; High-index Optimization-based Shrinking Dimer Method for Finding High-Index Saddle Points, SIAM Journal on Scientific Computing, 2019, 41(6): A3576-A3595.

139. Tian, Tian; Wan, Han; Ge, Wei; Zhang, Pingwen; Detecting Particle Clusters in Particle-Fluid Systems by a Density Based Method, COMMUNICATIONS IN COMPUTATIONAL PHYSICS, 2019, 26(5): 1617-1630.

140. Li, Haochen; Yu, Chen; Xia, Jiangjiang; Wang, Yingchun; Zhu, Jiang; Zhang, Pingwen ; A Model Output Machine Learning Method for Grid Temperature Forecasts in the Beijing Area , Advances in Atmospheric Sciences, 2019, 36(10): 1156-1170.

141. Han, Yucen; Hu, Yucheng; Zhang, Pingwen; Zhang, Lei; Transition pathways between defect patterns in confined nematic liquid crystals, JOURNAL OF COMPUTATIONAL PHYSICS, 2019, 396: 1-11.

142. Yin, Jianyuan; Wang, Yiwei; Chen, Jeff Z. Y.; Zhang, Pingwen; Zhang, Lei; Construction of a Pathway Map on a Complicated Energy Landscape, Phys. Rev. Lett., 2020, 124(9).

Books

1. Long-an Ying and Pingwen Zhang, Vortex Methods , Science Press, (1994).

2. Shufang Xu, Li Gao and Pingwen Zhang, Numerical Linear Algebra (Chinese), Peking University Press, (2001).

3. Tie Zhou, Shufang Xu, Pingwen Zhang and Tiejun Li, Computational Methods, Tsinghua University Press, (2006).

4. Tatsien Li and Pingwen Zhang (editors), Frontiers and Prospects of Contemporary Applied Mathematics, Series in Contemporary Applied Mathematics, CAM6, Higher Education Press and World Scientific, (2006).

5. Pingwen Zhang and Tiejun Li, Numerical Analysis (Chinese), Peking University Press, (2007).